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INTERNATIONAL PRELIMINARY EXAMINATION REPORT
(PCT Article 36 and Rule 70)

Applicant's or agent's file reference F17663 DMD	FOR FURTHER ACTION	See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)
International application No. PCT/IB 03/05388	International filing date *(day/month/year)* 25.11.2003	Priority date *(day/month/year)* 26.11.2002
International Patent Classification (IPC) or both national classification and IPC G01M17/04		
Applicant SHOCK-DOC LTD et al.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 6 sheets, including this cover sheet.

   ☐ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

   These annexes consist of a total of sheets.

3. This report contains indications relating to the following items:

   - I ☒ Basis of the opinion
   - II ☐ Priority
   - III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
   - IV ☐ Lack of unity of invention
   - V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
   - VI ☐ Certain documents cited
   - VII ☐ Certain defects in the international application
   - VIII ☐ Certain observations on the international application

Date of submission of the demand	Date of completion of this report
25.06.2004	04.02.2005
Name and mailing address of the international preliminary examining authority: European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized Officer Dighaye, J-L Telephone No. +49 89 2399-2823

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/IB 03/05388

I. Basis of the report

1. With regard to the **elements** of the international application *(Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17))*:

Description, Pages

1-11 as published

Claims, Numbers

1-18 as published

Drawings, Sheets

1/5-5/5 as published

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

   These elements were available or furnished to this Authority in the following language: , which is:

   ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).

   ☐ the language of publication of the international application (under Rule 48.3(b)).

   ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

   ☐ contained in the international application in written form.

   ☐ filed together with the international application in computer readable form.

   ☐ furnished subsequently to this Authority in written form.

   ☐ furnished subsequently to this Authority in computer readable form.

   ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

   ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

   ☐ the description, pages:

   ☐ the claims, Nos.:

   ☐ the drawings, sheets:

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

   (Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes:	Claims	1-18
	No:	Claims	
Inventive step (IS)	Yes:	Claims	
	No:	Claims	1-18
Industrial applicability (IA)	Yes:	Claims	1-18
	No:	Claims	

2. Citations and explanations

   see separate sheet

Preliminary remark:

Due to delays caused by double-checking of incorrectly cited documents in the International Search Report (ISR; see below), the present international preliminary examination report is directly issued.

1. The following documents are cited:

   D1: EP-A- 355 398 (additionally F1: US-A-4 979 388 family member of D1)
   D2: EP-A- 18 959
   D3: US-A-6 019 495
   D4: AU-A-2000 71537
   D5: JP-A-59 006306 (abstract only)
   D6: ZA-A-94 06337 (abstract only)

2. D4 is an application of Canon Kabushiki Kaisha entitled "Colour ink model processes for printers". The reference in the ISR also has Canon for applicant, and the publication date of the patent corresponding to D4 is the one indicated in the ISR. However, the technical field of the present application completely differs from that of D4, and no passages of D4 relate, even remotely, to the subject-matter of the claims of this application, so that the present authority disregards the findings of the ISR indicating that D4 could be relevant to present claims 6 and 7.

3. D1 is considered relevant to present method claim 1 (and corresponding system claim 12) for the following reasons:
   - It discloses a shock absorber testing instrument (see the title);
   - The instrument comprises at least one electronic unit for recording vibrating movements of a vehicle body (D1, col. 1, ll. 38-40). It is presented as a simplified or improved version of the prior art test stands (D1, col. 1, l. 12) for safety tests of acceleration-absorbing shock absorbers, thus the unit must operate as an accelerometer. This is corroborated by further prior art documents, see point 4 below;
   - Each unit is attached next to the car body portion where vibrations are to be measured; preferably, measurements are done corresponding to a shock absorber associated with each of the car's wheels (D1, Fig. 2; claim 1 of F1 is

even more precise since "a sensor connectable to one of the shock absorbers of the vehicle" is mentioned). See also point 4 below;
- Signals are processed by a microprocessor 4 (D1, last line of col. 2 - first line of col. 3), in order to indicate the condition of the shock absorber, i.e. its damping properties, compared against an assessment table (D1, col. 3, ll. 34-36); and
- Evaluated data are displayed by display unit 6 (D1, col. 3, ll. 2-3; further details of the display unit are given later on in the description).

Hence the only possible differences of present claim 1 or claim 12 with respect to D1 (or F1) pertain to constructional details in the manner to attach the sensor to one or another part of a shock absorber, and in the language, which is more explicit (an "accelerator" is explicitly mentioned, as well the calculation of a "damping factor"; as seen above, however, D1 at least implicitly discloses similar features). Such mere constructional or formal differences cannot be regarded as inventive.

4. D2 and D3, relating to the present technical field, provide further information, for the skilled person, about those implicit features, for instance: the piezo-sensor of D1, col. 1, ll. 44-45 is a preferred type of accelerometer (see D2, p. 2, para. 2); the disposition of the sensor(s) of D1 is of the usual configuration illustrated in Fig. 5 of D3 (see also D3, col. 4. l. 45 seq.); the condition of a shock absorber is usually estimated by a damping factor (see D3, col. 6, equation (5) and the following description).

5. It is submitted that the features of the dependent claims are obvious as well. In particular:
- Claim 2 further specifies a location of the accelerometer similar to the teaching of the above-mentioned documents;
- Claims 3-8 recite features well-known in data processing applications, in the field of shock absorbers (see D3) as well as in other technical fields (see the reference to the Nelder-Mead algorithm in D5);
- A comparison between the actual condition of the shock absorber and qualitative data from a manufacturer (claim 9) is suggested in D1, col. 5, ll. 35-39, in that a "correct shock absorber" is mentioned, i.e. there must be a data set of nominal properties of shock absorbers, and, when the right data is selected, the actual performance must be compared against it. It is straightforward that an alarm

(claim 10) should be generated in case of unacceptable deviation;
- Repeating measurements for improved accuracy (claim 11) is trivial;
- Sets of mathematical calculations similar to those of claim 13 are known from D1, see e.g. the "page" function of D1, col. 3, l. 41 seq.;
- In most of the cited documents, the processor is not adjacent the accelerometer i.e. it is remote in the sense of claim 14. If no wire connection is desired, a wireless data link (claim 15) is provided, see abstract of D6. Connection with further peripherals (claim 16) is known from D1, see e.g. the "print" function of D1, col. 3, ll. 37-40.

6. Claims 17 and 18 merely refer to the description and the drawing without specifying any feature which could support a possible inventive step.